11-osios tarptautinės konferencijos programa

The 11th International Conference Program

Kauno technologijos universitetas
2007 m. gegužės 15 – 17 d.
Kaunas University of Technology
May 15 – 17, 2007

Vilniaus Gedimino technikos universitetas
2007 m. gegužės 16 – 17 d.
Vilnius Gediminas Technical University
May 16 – 17, 2007
Kaunas University of Technology (KTU)

Is the largest technical university in the Baltic States, is the second largest institution of higher education of Lithuania. It contains 13 faculties, library, high school (gymnasium), 10 institutes, 4 centres.

The highest decision-making body in the University is the Senate; the highest executive body is the Rectorate.

Over 18 thousand students are enrolled in studies including 450 Ph.D. students; the academic staff reaches 1200. The main study fields are as follows: technological, physical and social sciences, humanities, biomedicine. The University offers 36 Bachelor’s and 65 Master’s degree study programs. Ph.D. students may choose among 17 areas of study.

University scientists not only carry out research, but also publish the following prominent scientific journals: "Environmental Research, Engineering and Management", "Chemical Technology", "Electronics and Electrotechnics", "Information Technology and Control", "Measurements", "Mechanics", "Materials Science", "Social Sciences", "Engineering Economics" and "Ultrasound".

KTU scientists take part in various international programmes. International research cooperation and activities are mainly related to participation in European Community 5 FRAMWORK, EUREKA, COST programmes. In 2002 KTU carried out 27 such projects. Currently KTU actively participates in process of proposals preparation for SIXTH FRAMEWORK programme, which started at the end of 2002. In the autumn of 1998 Lithuania jointed European Community action programme in the field of education SOCRATES. According institutional SOCRATES/ERASMUS agreement 131 students studied and 26 lectures gave lectures in EU institutions of higher education in the academic year 2002/2003. Since 1998 University participate in EC vocational training action LEONARDO DA VINCI programme.

KTU is a member of the European University Association (EUA), the European Society for Engineering Education (SEFI), the International Association for Continuing Engineering Education (IACEE), and the other international organizations.
Owing to the historical circumstances, the Academy of Sciences was established on 16 January 1941, i.e. at the moment when Lithuania had already lost its independence. Its first President was the famous Lithuanian scholar and writer V Krėvė - Mickevičius. During the first stage of its establishment which coincided with the years of the war the Humanities prevailed in the Lithuanian Academy of Sciences. In the postwar years the reestablished Academy of Sciences functioned under harsh conditions when the activities of scientists were strictly regulated but within the Academy of Sciences the progressive scientific thought was always alive. It was especially stimulated by a great authority in electrochemistry, Prof. Juozas Matulis, the long-standing President of the Academy of Sciences. The prestige and influence of the Lithuanian Academy of Sciences is felt in nearly every field of the country's scientific life. This has been achieved by close scientific cooperation. The scientists trained by the Lithuanian Academy of Sciences work in a large number of Lithuania's scientific and educational institutions. Out of 29 state scientific research institutes functioning nowadays.

The Presidium of the Academy of Sciences

President Acad. Zenonas Rokus Rudzikas
Vice-President Acad. Veronika Vasiliauskiene
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Prof. Vytas Antanas Tamosiunas
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Prof. Albinas Kusta
Chairman of the Technical Sciences Division
Prof. Vytautas Ostasevicius
Riga Technical University

Riga Technical University is one of the oldest institutions of higher technical education in North-Eastern Europe. There are about 13,000 students at the RTU. At present RTU comprises 8 faculties.

Founded in 1862, following similar technical institutions in Switzerland and Germany, the RTU serves the needs of rapidly growing industry of the Baltic region.

As a private university it was supported by the Baltic nobility. The Polytechnicum consisted of 6 departments: those of Engineering Sciences, Chemistry, Agriculture, Mechanics, Trade and Architecture. Only male students were admitted to the Polytechnicum. Admission was by study fees. No entrance examinations were to be taken. Neither nationality nor material estate were important. The language of instruction was German. The first student was a representative of the local nobility Leons Kulbahs from Vidzeme. 4941 student had studied at the Polytechnicum till 1896.

After Latvia has regained its independence, Riga Technical University completely reformed its process of education with the clear goal to meet education and research standards set by the European Union and restructured its program to adapt them to engineering programs of European Universities. Its scientific potential was evaluated by independent European Commission in 1992 which produced corresponding report on each research group of the RTU. Riga Technical University is the state university, and its Constitution is approved by the Latvian Parliament. The university actively participates in a large number of European programmes of education and science. Along with Latvian and Russian students, the university has also a fast growing number of students from many foreign countries.

Riga Polytechnical Institute received its present name – Riga Technical University on 19 March 1990. Since that time reorganization work of the study process has been going on to ensure both academic and professional education in the branches characteristic of Latvian national economy and complying with the demands of the European Union.

RTU has been an international institution from the very beginning - many distinguished scientists from Germany, Poland, Sweden and Russia have studied and worked there.
Tallinn University of Technology (TUT)

TUT is one of the largest universities in Estonia, providing an interdisciplinary higher education and technological advancement.

TUT has 11,434 students and personnel of 1,600.

Founded as engineering college in 1918, TUT acquired university status in 1936.

University is organized into 8 faculties, 33 departments and 110 chairs, 1 university research centres and 9 faculty research centres, and 9 affiliated institutions.

Academic year: September to June.

Languages of instruction: Estonian, general subjects are also available in Russian. Since September 2003, TUT offers 6 international programmes some special study modules taught in English.

The University offers engineering and economics diploma, bachelor's, master's and doctoral degree programmes.

Is located in Tallinn, the capital of Estonia, approximately 10 kilometres from the centre of the city. The main building houses five faculties, the building of the Faculty of Economics and Business Administration are situated away from the main campus.

Information and communications technology programs provide for specialists who are accountable for developing the resources for the information society in Estonia, where know-how and knowledge are vital for creating the wealth of the society. Knowledge and skills of those specialists establish a sound foundation to the high tech and science-based industry.

The Faculty is the successor of the Faculty of Electrical Engineering founded in 1965. Recent years have seen the integration of educational, research and economic activities - close cooperation with Estonian and foreign enterprises and research institutions. Feedback from the Estonian Association of Information and Communication Enterprises contributes to the updating of curricula in the interests of Estonia's economic development. The Faculty trains specialists in the main fields of information and communications technology - informatics, computer and systems engineering, electronics and telecommunications. Specialists in the field of business information technology are prepared in collaboration with the Faculty of Economics and Business Administration.
Vilnius Gediminas Technical University (VGTU) is a modern higher school with significant educational and research achievements. 13,554 students came to the University's classrooms. The university has 1,736 staff members.

September 1, 1956 is considered to be the date of founding a higher technical school in Vilnius, when the Vilnius Evening division of the Evening faculty of Kaunas Politechnical Institute (KPI) was established. In 1990 the Vilnius Civil Engineering Institute became Vilnius Technical University, which on August 22, 1996 was awarded the name of Gediminas, Great Duke of Lithuania.

At present the University includes 8 faculties, Aviation Institute named after A. Gustaitis, International Studies Centre, Centre for Continuous Education, 10 research institutes and 19 laboratories. Teaching staff numbers 904, including 49 Research fellows. There are also 117 Doctors Habil and Professors, 472 Doctors or Associate Professors, 67 Lectors and 238 Assistants.

The University trains Bachelors, Engineers and Masters of sciences according to 88 programmes of studies, including Humanities sciences, Physical sciences, Social sciences, Technological sciences. Every year VGTU is provided with more various facilities. Thus, according to Resolution No 860 of Lithuanian Government, the University has got the building of 9,073 m² in 1/26 Traku str.

The university also organizes Doctoral studies in 15 areas (ie Technological, Humanities, Social, and Physical sciences, etc)

All the faculties have the right for Habilitation. This certifies that the University's scope of education and research is rather versatile and of high academic level. The aim of the University is to do what is mostly helpful for the State.

VGTU tried to find its own way among other European educational institutions and today Vilnius Gediminas Technical University welcomes everybody who is eager and has ability to study here. Thus, we are realising the idea written into the coat of arms of the university: "sapere aude" (strive for wisdom). We hope that cooperating with us you will enjoy good results.
Dear [Name],

We invite for joint discussion representatives of the science field ELECTRONICS from abroad, also from various Lithuanian science and study institutions, industrial enterprises, trade companies, together with Government members evaluate present situation of electronics science and industry, foresee ways for better and quicker introduction of science achievements into industry, to acquaint participants with the latest research results and with possibilities for science and study institutions to integrate into economics development process.

Conference will be held in two stages:
- 1. Plenary Session - on May 15, Kaunas, KTU;
- Sections of Science Branches - on May 16, 17 in Kaunas, KTU and Vilnius, VGTU. There will be analyzed the most urgent electronics science problems, solved by World and Lithuanian researchers.

Achievements in the following science fields are planned to discuss:

2. Medicine Technology;
3. System Engineering, Computer Technology;
4. Signal Technology;
5. Automation, Robotics;
6. Electronics;
7. Microelectronics;
8. Telecommunication Engineering;
9. Electrical Engineering;
10. High Frequency Technology, Microwaves;

Reports on other topics, connected with electronics theory and engineering are also expected.

Seminars of the mentioned science fields will be held during evening sessions.

Official language of the conference: English and Lithuanian.

Duration of reports: Plenary session -15 min., other sessions -10 min. Reports are illustrated by posters or with codoscope. Reports should be prepared in visual form and delivered to participants during registration. Report is announced to the author’s or participant’s request. Duration – 3-5 min.

Information concerning the conference is available:

in Kaunas: phone: +370 37 351389, (KTU); mob. phone: +370 686 96598; e-mail: Danielius.Eidukas@ktu.lt;

in Vilnius: phone: +370 5 2744772, e-mail: a.marcinkevicius@el.vtu.lt (VGTU).
The 11th International Conference ELECTRONICS

Conference is organized by Telecommunication and Electronics Faculty of Kaunas University of Technology with the help of Lithuanian Academy of Sciences, Riga Technical University, Tallinn Technical University, Vilnius Gediminas Technical University, Lithuanian Representatives of IEEE, supported by the Lithuanian State Science and Study Fund.

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Prof. Rein Valdamäe, Vice Rector for Research, TUT, Estonia

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Prof. Stanislavas Štaras, VGTU, Lithuania

Registration
Reporters and participants will be registered before sessions.

Conference materials
Referred and evaluated by independent reviewers conference materials will be published in the periodical journal "Electronics and Electrical Engineering", 2007, No.1(73) – 8(80). Price of printed materials: 8 volumes – 800 Lt or 240 EUR, per number – 100 Lt or 30 EUR. For the detailed information about the conference see KTU WWW server http://www.ktu.lt/en/index3.html
I Section. The 11th INTERNATIONAL CONFERENCE Electronics Today

Chairmen: Prof. B. Dekkeris (KTU), e-mail: brunonas.dekeris@ktu.lt
Academician D. Eidukas (KTU), e-mail: danielius.eidukas@ktu.lt
Prof. A. Marcinkevičius (VGTU), e-mail: albinas.marcinkeviucius@el.vtu.lt
Prof. A. Valinevičius (KTU), e-mail: algimantas.valinevicius@ktu.lt

Scientific Secretary – Prof. P. Bališis (KTU), e-mail: pranciskas.balisas@ktu.lt

May 15, 2007, Tuesday,
Kaunas University of Technology, Studentų str. 50, r. 336,
LT-51368 Kaunas, Lithuania, 10.00 – 17.00 h
Registration – r. 440, 9.30 h

Morning Session - 10.00 h

1.1. Opening
D. Eidukas, Academician, Academy of Sciences, Lithuania,
e-mail: danielius.eidukas@ktu.lt

1.2. Social Technologies of Work with Knowledge and Information for Engineering Design
and Education Activities
V. Vyatyshev, Moscow Power Engineering Institute, Russia, e-mail: vitaidea@mtu-net.ru

1.3. Research on Wide-range Frequency Dependence of Experimental Quality Factor
of Planar Inductors
J. Jankovskis, D. Stepins, Riga Technical University, Latvia, e-mail: jankovsk@rsf.rtu.lv

1.4. Digital Measurement of Frequency with Linear Interpolation
L. Referowski, D. Swisulski, Gdańsk University of Technology, Poland,
e-mail: pietris@ely.pg.gda.pl

1.5. Critical Slip of Induction Motor Supplied from Limited Power Source
S. Geciūnas, Kaunas University of Technology, Lithuania, e-mail: steponas.geciunas@ktu.lt

1.6. Development for Automatic Welding System with Reduction of Residual Stress
Sh. Aoki, S. Hirai, V. Saechout, M. Kohmura, Institute of Technologists, T. Nishimura,
T. Hiroi, Tokyo Metropolitan College of Industrial Technology, Japan, e-mail: hirail@iot.ac.jp

1.7. Linearisation Method for Two-dimensional Memoryless Laplass Source
Z. Perić, M. Norković, V. Despotović, University of Niš, Serbia,
e-mail: peric@elfak.ni.ac.yu

11.30 – 11.45 Coffee Break

1.8. Linear Induction Motors at Present Time
R. Rinkevičienė, A. Smilgevičius, Vilnius Gediminas Technical University, Lithuania,
e-mail: algirdas.smilgevius@el.vtu.lt

1.9. NoCs Design for Verification
V. Hahanov, O. Yegorov, K. Mostova, Kharkov National University of Radio Electronics,
Ukraine, e-mail: hahanov@kture.kharkov.ua

1.10. Multi Task Real-time System Energy Consumption Minimisation using Mini-Max Method
A. Baums, Institute of Electronics and Computer Science, Latvia, e-mail: baums@edi.lv

1.11. Some Fading-related Problems at HF Propagation Path in the Baltics
E. Lossmann, U. Madar, A. Raaja, M. Meister, Tallinn University of Technology, Estonia,
e-mail: eriklos@ifr.ttu.ee

1.12. Applications of Generalized Beta-distribution in Quality Control Models
R. Kalnius, D. Eidukas, Kaunas University of Technology, Lithuania,
e-mail: danielius.eidukas@ktu.lt
1.13. The Statistical Characteristics of the MRC Diversity System Output Signal

**D. Kristič, M. Stefanović, University of Niš, Serbia, e-mail: dragana@elfak.ni.ac.yu**

**Evening Session - Poster Reports**

*Leads Prof. A. Valinevičius, Kaunas University of Technology, Lithuania, e-mail: algimantas.valinevicius@ktu.lt*


**V.R. Vijaykumar, P.T. Venathi, PSG College of Technology, P. Kanagasapabathy, Madras Institute of Technology, Chennai, India, e-mail: vr_vijay@yahoo.com**

1.15. Functional Delay Test Construction Approaches

**E. Bareiša, V. Jusas, K. Motaigūtėnas, R. Šeinauskas, Kaunas University of Technology, Lithuania, e-mail: eduardas.bareisa@ktu.lt**

1.16. Protection against Electric Shock using Residual Current Devices in Circuits with Electronic Equipment

**S. Czapp, Gdansk University of Technology, Poland, e-mail: s.czapp@ely.pg.gda.pl**

1.17. Possible Solutions of Smooth Regulation of Reactive Power

**I. Rankis, J. Zakis, Riga Technical University, Latvia, e-mail: janis_zakis@one.lv**

1.18. Model of Steam Consumption in Central Heat Transfer Network

**J. Šipal, University of Jan Evangelista Purkyně in Ústí nad Labem, Czech Republic, e-mail: sipal@fvtm.ujep.cz**

1.19. Visualization of Eye Gaze Data using Heat Maps

**O. Špakov, University of Tampere, Finland, e-mail: oleg@cs.uta.fi**

**D. Miniotas, Vilnius Gediminas Technical University, Lithuania, e-mail: darius.miniotas@el.vtu.lt**

1.20. Moments of the MRC and EGC Combiner Output

**M.C. Stefanovic, N.D. Kapacinovic, University of Niš, M.V. Bandjur, University of Priština, Serbia, e-mail: nale@elfak.ni.ac.yu**

1.21. Detection of Signal Data Alternations by Forward Chaining XPS

**A.A. Bielskis, O. Ramašauskas, Klaipėda University, Lithuania, e-mail: bielskis@ik.ku.lt**

1.22. The Frequency Transducer of a Magnetic Induction

**V.S. Osadchuk, A.V. Osadchuk, V.V. Chabanenko, Ukraine, e-mail: osadchuk69@mail.ru**

*Discussions*

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Joint Meeting of Editorial Board of the Journal “Electronics and Electrical Engineering” devoted to Analysis of Published Scientific Materials.
II Section. MEDICINE TECHNOLOGY – T 115

Chairmen:  
Prof. D. Eidukas (KTU), Lithuania, e-mail: danielius.eidukas@ktu.lt  
Prof. J. Blužas (KMU), Lithuania

Secretary – Assoc. Prof. M. Skučas (KMU), Lithuania, e-mail: aritmiki@kmu.lt

May 17, 2007, Thursday,  
Kaunas University of Technology, Studentų str. 50, r. 440,  
LT-51368 Kaunas, Lithuania, 10.00 – 17.00 h

Morning Session – 10.00 h

2.1. Segmentation of Electroencephalographic Signals using an Optimal Orthogonal Linear Prediction Algorithm  
R. Ursulean, “Gh. Asachi” Technical University, Romania, e-mail: ursulean@ee.tuiasi.ro,  
A.M. Lazar, “Gr. T. Popa” Medicine and Pharmacy University, Romania,  
e-mail: anca@scs.etc.tuiasi.ro

2.2. Improving the Performance of Program Package for 3D Simulation of Low Frequency Magnetic Field in Medical Therapy  
D.Tse, Dimitrov, Technical University of Sofia, Bulgaria, e-mail: dcd@tu-sofia.bg

2.3. Assessment of QT Dispersion in Prediction of Life-Threatening Ventricular Arrhythmias in ICD Recipients  
I. Blužasite, H. Rickli, R. Widmer, P. Ammann, Kantonsspital St. Gallen, Switzerland,  
G. Urbonaviciene, Z. Bertusiene, V. Zabiela, Kaunas University of Medicine, Lithuania,  
e-mail: ina.bluzaite@kssg.ch

2.4. Polycardiosignal Coherence Evaluation Results  
G. Keršulytė, A. Vainoras, L. Gargasas, Z. Navickas, Institute of Cardiology of Kaunas University of Medicine, Lithuania, e-mail: liudas.gargasas@med.kmu.lt

2.5. Decision Support and Modeling Methods in Medicine  
K. Berškienė, A. Lukoševičius, A. Vainoras, A. Vitartaitė, Z. Navickas, Institute of Biomedical Engineering of Kaunas University of Technology, Lithuania,  
e-mail: k.bersinkiene@gmail.com

2.6. Quantitative and Qualitative Informatice Signals Analysis for Construction the Knowledge Basis of Automatic Glaucoma Diagnostic System  
I. Sliūsoraištė, A. Lukoševičius, Kaunas University of Technology, J. Janulevičienė, Eye Clinic of Kaunas University of Medicine, V. Sliūsoraišienė, Vilnius Gediminas Technical University, Lithuania, e-mail: sliuusorsaitie@yahoo.com

2.7. Human Functional State Personal Monitor  
S. Korsakas, A. Vainoras, L. Gargasas, J. Lauznis, Z. Markovitch, R. Markovitcha, Institute of Cardiology of Kaunas University of Medicine, Lithuania, e-mail: stauor@medi.lt

2.8. Ultrasonic Investigation of Arterial Morphology  
I. Kupčiūnas, A. Kopustinskas, J. Marcinkevičienė, Kaunas University of Technology, Lithuania, e-mail: irmantas_k@yahoo.com

2.9. Efficacy Control of Functional Electrostimulation of Pelvic Floor Muscles after Radical Prostatectomy  
A. Bingelis, Lithuanian Academy of Physical Education, e-mail: a.bingelis@lkka.lt  
R.B. Kibiša, D. Trumbeckas, A. Kriščiūnas, J.K. Mickevičius, Kaunas University of Medicine, Lithuania, e-mail: raimundas.kibisa@kmu.lt

2.10. Estimation of the Influence of Variability of Electrophysiological Parameters on a Heart Rhythm by Mathematical Model of Pure Parasystole  
D. Eidukas, R. Labrencus, Kaunas University of Technology, J. Grigašūnienė, M. Skučas, R. Lekas, Institute of Cardiology, Kaunas University of Medicine, e-mail: aritmiki@kmu.lt
2.11. Modeling of Human Physiological Parameters in an E-Laboratory by SOM Neural Networks

A. A. Bielskis, V. Denisov, G. Kučinskas, O. Ramašauskas, N. Romas, Klaipėda University, Lithuania, e-mail: bielskis@iik.ku.lt

Discussions

Evening Session – Poster Reports

2.12. Experimental Investigation of Video-Oculographical Eye-Tracking System

N. Ramausauskas, G. Daunys, Šiauliai University, Lithuania, e-mail: n.ramausauskas@tf.su.lt

2.13. Eye Image Preprocessing using DSP for Gaze Tracking

L. Kumpys, G. Daunys, Šiauliai University, Lithuania, e-mail: laimonas.k@tf.su.lt


O. Špakov, D. Miniotas, Vilnius Gediminas Technical University, Lithuania, e-mail: darius.miniotas@el.vtu.lt

2.15. Evaluation of Head Orientation Accuracy by Video Method

D. Dervinis, Šiauliai University, Lithuania, e-mail: ddonatas@cr.su.lt


P. Serafinavičius, Kaunas University of Technology, Lithuania, e-mail: paulius.se@gmail.com

2.17. Model of the Ultrasound Calibration Signal

M. Žakauskas, A. Kopustinskas, Kaunas University of Technology, Lithuania, e-mail: dnlr@one.lt

2.18. Calculation of Parameters of Aneurysm

L. Mockus, Foreign Office, Lithuania, e-mail: laimonas.mockus@urm.lt

2.19. Segmentation of Blood Vessels in the Tomograms of a Human Liver

K. Bartnykas, A. Ušinskas, Vilnius Gediminas Technical University, Lithuania, e-mail: kestutis.bartnykas@el.vtu.lt

2.20. 3D Skeleton Algorithms for Extraction of Centerline of Blood Vessels of Human Brain

D. Grigaitis, E. Žitkevičius, D. Navakauskas, Vilnius Gediminas Technical University, Lithuania, e-mail: darius.grigaitis@el.vtu.lt

2.21. Peculiarities of Moving Person Pulse Signal

J. Daunoras, J.A. Virbalis, R. Lukočius, Kaunas University of Technology, Lithuania, e-mail: robertas.lukočius@ktu.lt

2.22. Medical CT (computed tomography) Imaging Techniques

L. Šinkunas, JSC “Medint”, Lithuania, e-mail: robertas.lukočius@ktu.lt

Discussions
III Section. SYSTEM ENGINEERING, COMPUTER TECHNOLOGIES – T 120

Chairmen: Prof. R. Kirvaitis (VGTU), e-mail: raimundas.kirvaitis@adm.vtu.lt
Prof. R. Martavičius (VGTU), e-mail: romanas.martavicius@el.vtu.lt
Secretary – Prof. D. Navakauskas (VGTU), e-mail: dalius.navakauskas@el.vtu.lt

May 16, 2007, Wednesday,
VGTU, Naugarduko str. 41 r. 425, LT-03227 Vilnius,
Lithuania

Morning Session – 10.00 h

3.1. Internet Browser Control by Voice
G. Tamulevičius, Institute of Mathematics and Informatics, Lithuania,
e-mail: g.tamulevicius@mch.mii.lt

3.2. Hidden Markov Models based Lithuanian Connected Word Recognizer
M. Filipovič, Institute of Mathematics and Informatics, Lithuania,
e-mail: markas@mch.mii.lt

3.3. Framework for Choosing a Set of Syllables and Phonemes for Lithuanian Speech Recognition
S. Laurinčiukaitė, Institute of Mathematics and Informatics, Lithuania,
e-mail: sigita.lau@mch.mii.lt

3.4. Experimental Results of Speaker Recognition using Vocal Tract Parameters
J. Kamarauskas, Institute of Mathematics and Informatics, Lithuania,
e-mail: j.kamarauskas@ltic.lt

3.5. Intrusion Detection System Modeling
N. Paulauskas, E. Garšva, Vilnius Gediminas Technical University, Lithuania,
e-mail: nerijus.paulauskas@el.vtu.lt

3.6. Investigation of Magnetic Fields of Personal Computer Monitors
G. Gražulevičius, Vilnius Gediminas Technical University, Lithuania,
e-mail: gediminas.grazulevicius@el.vtu.lt

3.7. Bidirectional Glottal Signal Restoration for Song Synthesis
R. Leonavičius, D. Navakauskas, Vilnius Gediminas Technical University,
Lithuania, e-mail: romas.leonavicius@el.vtu.lt

3.8. Investigation of Voice Servers Application for Lithuanian Language
A. Rudžionis, R. Maskeliūnas, K. Ratkevičius, V. Rudžionis, Kaunas University of Technology, Lithuania,
e-mail: algimantas.rudzionis@ktu.lt

3.9. Movement of Formants of Vowels in Lithuanian Language
D. Balbonas, G. Daunys, Šiauliai University, Lithuania, e-mail: dainius@tf.su.lt

3.10. Mathematical Models of Oversaturated Protein Spots
D. Matuzevičius, A. Serackis, D. Navakauskas, Vilnius Gediminas Technical University, Lithuania,
e-mail: dalius.matuzevicius@el.vtu.lt

Discussions
Evening Session – Poster Reports

Leads Prof. R. Kirvaitis (VGTU), e-mail: raimundas.kirvaitis@adm.vtu.lt

3.11. Simulation of Distributed Mode Loudspeaker with Magnetostrictive Transducer
V. Augutis, A. Dumčius, D. Gailius, Kaunas University of Technology, Lithuania, e-mail: antanas.dumcius@ktu.lt

3.12. Correction of Geometric Distortions in 2D Electrophoresis Gel Images
D. Mateevičius, D. Navakauskas, Vilnius Gediminas Technical University, Lithuania, e-mail: dalius.matezevicius@el.vtu.lt

3.13. Simulation of Sound Field of Class Room
A. Dumčius, Kaunas University of Technology, Lithuania, e-mail: antanas.dumcius@ktu.lt

3.14. Embedded Microcontrollers Benchmarking using Sliding Window Algorithm
Ž. Nakutis, Kaunas University of Technology, Lithuania, e-mail: nakutis@ktu.lt

3.15. Reconstruction of Overlapped Spots using RBF Networks
A. Serackis, D. Navakauskas, Vilnius Gediminas Technical University, Lithuania, e-mail: arturas.serackis@el.vtu.lt

3.16. Survey of Genetic Algorithms Applications in Image Processing
M. Paulinas, A. Ušinskas, Vilnius Gediminas Technical University, Lithuania, e-mail: mantas.paulinas@el.vtu.lt

3.17. Application of Ant Colony Optimization for Image Segmentation
R. Laptik, D. Navakauskas, Vilnius Gediminas Technical University, Lithuania, e-mail: raimond.laptik@el.vtu.lt

3.18. A Fully Automatic Stitching of 2D X-ray Images
D. Mateika, R. Martavičius, Vilnius Gediminas Technical University, Lithuania, e-mail: dmateika@gmail.com

3.19. Algorithmic Methods of Variational Calculation
A. Dambrauskas, V. Rinkevičius, Vilnius Gediminas Technical University, Lithuania, e-mail: vytas@epregas.lt

K. Kozlauskas, Institute of Mathematics and Informatics, Lithuania, e-mail: kazlausk@ktl.mii.lt

Discussions
IV Section. SIGNAL TECHNOLOGIES – T 121

Chairmen: Prof. R. Krivickas (KTU), e-mail: romanas.krivickas@ktu.lt  
Prof. A. Čitavičius (KTU), e-mail: algis.citavicius@ktu.lt  
Secretary – Assoc. Prof. AV. Dumbrava (KTU),  
e-mail: vytautas.dumbrava@ktu.lt

May 16, 2007, Wednesday  
KTU, Studentu str 50, r. 336, LT-51368 Kaunas, Lithuania

Morning Session – 10.00 h

4.1. Performance Evaluation of the Admission Control Algorithm  
A. Asars, M. Kulikovs, E. Petersons, Riga Technical University, Latvia,  
e-mail: mike@dimir.lv

4.2. The Influence of Phase Shift of Interference on Signal Propagation along the Optical Fiber  
P. Spalevic, L. Spalevic, B. Milosevic, I. Petrovic, University of Niš, Serbia,  
e-mail: petarspalevic@yahoo.com

4.3. Detection of the Left Bundle Branch Block in Continuous Wavelet Transform of ECG Signal  
S. S. Ilič, Faculty of Technical Sciences in Kosovska Mitrovica, Serbia,  
e-mail: sinisasilic@yahoo.com

4.4. Error Probability of Digital Transmission over Fading Channels with Coding and PSK Modulation  
A. Raja, Tallinn University of Technology, Estonia, e-mail: araja@lr.ttu.ee

4.5. Connection Establishment Time Research in Wireless Networks  
A. Ipatovs, E. Petersons, Riga Technical University, Latvia,  
e-mail: alesandsrs.ipatovs@ijsd.riga.lv

4.6. Modeling Information Complex Processing with MMS-Kalman Filter  
A. Kluga, J. Kluga, Riga Technical University, Latvia, e-mail: ansis.kluga@rtu.lv

A. Baums, M. Greitans, U. Grunde, Riga Technical University, Latvia,  
e-mail: baum@edi.lv

4.8. Distance and Bandwidth Estimation for MIMO Channel  
A. Ruško, V. Novikovs, G. Balodis, Riga Technical University, Latvia,  
e-mail: balodis@etf.rtu.lv

4.9. Synthesis of Regular Digital Filters with Specified Time Characteristics  
S. Sharkovsky, Riga Technical University, Latvia,  
e-mail: sergejs.sarkovskis@inbox.lv

Discussions

15
Evening Session – Poster Reports

Leads Prof. A. Čitavičius, Kaunas University of Technology, Lithuania, e-mail: algis.citavicius@ktu.lt

4.10. Analysis of Signals in Small Resistance Changes Measurement Unit
R. Kvedaras, Vilnius Gediminas Technical University, Lithuania, e-mail: elektrotechnika@el.vtu.lt

4.11. On Processing of Decimated Signals
R. Pupeikis, Institute of Mathematics and Informatics, Lithuania, e-mail: pupeikis@ktl.mii.lt

4.12. Respiratory Rate Estimation using Non-invasive Measurements
M. Vaitkūnas, A. Dosinas, V. Bartkevičius, J. Daunoras, Kaunas University of Technology, Lithuania, e-mail: mindaugas.vaitkunas@ktu.lt

4.13. Image Processing Applying Hybrid Cell Networks
V. Paukštaitis, A. Dosinas, Kaunas University of Technology, Lithuania, e-mail: vpausktaitis@yahoo.com

4.14. Simulation of Joint Constellation Multiple Access System and Results
A.B. Čitavičius, R. Žakelis, Kaunas University of Technology, Lithuania, e-mail: rolandas.zakelis@stud.ktu.lt

4.15. Automated Complex Impedance Measurement System
V. Dumbrava, L. Svilainis, Kaunas University of Technology, Lithuania, e-mail: vytarus.dumbrava@ktu.lt

4.16. Investigation of Models of Elements for Mobile Communication Systems
J. Sveikata, Kaunas University of Technology, Lithuania, e-mail: juozas.sveikata@ktu.lt

4.17. Standalone Air Humidity, pressure and Temperature Measurement Module
G. Motiejūnas, A. Urbonas, Kaunas University of Technology, Lithuania, e-mail: saldus_medus@yahoo.com

4.18. Investigation of Two-Port Conductance Parameters by Null-Balance Method
S. Zajankauskas, Kaunas University of Technology, Lithuania, e-mail: stasys.zajankauskas@ktu.lt

4.19. Design of Signal Generator with Monotonic Frequency and Amplitude Control
G. Motiejūnas, L. Svilainis, Kaunas University of Technology, Lithuania, e-mail: linas.svilainis@ktu.lt

4.20. DDS Technique Implementation Analysis
E. Ibenskis, Kaunas University of Technology, Lithuania, e-mail: edvardas.ibenskis@ktu.lt

4.21. Modern Frequency Synthesizer Structure Analysis
E. Ibenskis, Kaunas University of Technology, Lithuania, e-mail: edvardas.ibenskis@ktu.lt

Discussions
V Section. AUTOMATION, ROBOTICS – T 125

Chairmen: Prof. V.A. Geleževičius (KTU), e-mail: vilius.gelezevicius@ktu.lt
Prof. J.A. Virbalis (KTU), e-mail: arvydas.virbalis@ktu.lt
Secretary – Assoc. Prof. S. Bartkevičius (KTU),
e-mail: stanislovas.bartkevicius@ktu.lt

May 16, 2007, Wednesday,
KTU, Studentu str. 48, r. 231, LT-51367 Kaunas, Lithuania

Morning Session – 10.00 h

V. Narnicka, Riga Technical University, Latvia, e-mail: vita_narnicka@inbox.lv

5.2. Effect of Vibrations with Different Frequencies
Sh. Aoki, S. Hirai, V. Saechout, M. Kohmura, Institute of Technologists, T. Nishimura, T. Hiroi, Tokyo Metropolitan College of Industrial Technology, Japan, e-mail: hirai@iot.ac.jp

5.3. Controller with Enhanced Disturbance Rejection
A. Baškys, V. Gobis, V. Zlosničas, Semiconductor Physics Institute, Lithuania, e-mail: mel@pfi.lt

5.4. Investigation of Velocity Control System with Programmable Variable Structure Controller
N. Šulčius, V.A. Geleževičius, Kaunas University of Technology, Lithuania, e-mail: n.sulcius@tf.su.lt

5.5. Application of Fuzzy-sets Integral in Expert Systems
A. Dervinienė, V. Bagdonas, J. Daunoras, Kaunas University of Technology, Lithuania, e-mail: alma.derviniene@ktu.lt

5.6. Simplified Calculation of Linear Induction Electric Drives Characteristics
Z. Savickienė, A.J. Poška, Vilnius Gediminas Technical University, Lithuania, e-mail: zita.savickiene@el.vtu.lt

5.7. Unconventional Modes of Calculation and Control of Linear Induction Drives
A.J. Poška, Vilnius Gediminas Technical University, Lithuania, e-mail: algimantas.poska@el.vtu.lt

5.8. Optimization Process of Nonstationary Objects
A. Dambrauskas, D. Udris, Vilnius Gediminas Technical University, Lithuania, e-mail: algirdas.dambrauskas@el.vtu.lt

5.9. Connection of RES based Power Systems the Electric Grid
V. Kepalas, Č. Ramonas, V. Adomavičius, Kaunas University of Technology, Lithuania, e-mail: vytautas.kepalas@ktu.lt

5.10. Magnetic Field of Power Plant Reactor
J. Morozionkov, J.A. Virbalis, Kaunas University of Technology, Lithuania, e-mail: perovo6@yandex.ru

Discussions
Evening Session – Poster Reports

Leads Prof. V.A. Geležvičius (KTU), e-mail: vilius.gelezevicius@ktu.lt

5.11. Electromagnetic Flow Meter with Autonomous Power Source
R. Katutis, J.A. Virbalis, Kaunas University of Technology, Lithuania, e-mail: robisone@centras.lt

5.12. The Investigation of Thermodynamic Processes in Pulsed Magnets
S. Bartkevičius, J. Novickij, Vilnius Gediminas Technical University, Lithuania, e-mail: elektrotechnika@el.vtu.lt

5.13. Synthesis of Changeable Control Systems with Coordinate Limitations
A. Dambrauskas, B. Karaliūnas, D. Šulskis, Vilnius Gediminas Technical University, Lithuania, e-mail: dinas.sulskis@el.vtu.lt

5.14. Marginal Distribution Density of Free Reflection Simplex Search Algorithm when Target Function is Square
D. Šulskis, Vilnius Gediminas Technical University, Lithuania, e-mail: dinas.sulskis@el.vtu.lt

5.15. Research of Adaptive Force Control Loop of Pneumatic Acting System
A. Grigaitis, Siauliai University, V.A. Geležvičius, Kaunas University of Technology, Lithuania, e-mail: arunas.grigaitis@mechatnika.lt

5.16. Adaptation of Remote Control System for Data Exchange using a Mobile Data Channel
V. Batkauskas, V. Batkauskas, Vilnius Gediminas Technical University, Lithuania, e-mail: vygintas.batkauskas@klinkmann.lt

5.17. Industrial Automation based on Multiagent Systems
V. Mačerauskas, V. Teresius, Kaunas University of Technology, Lithuania, e-mail: vicka@one.lt

5.18. Application of Electric Conductivity for Evaluation of Liquid Parameters
J. Daunoras, A. Knyš, Kaunas University of Technology, Lithuania, e-mail: andrius.knyss@gsm.lt

5.19. Integrated in Clothes Body Colling System
J.A. Virbalis, R. Račkienė, Kaunas University of Technology, Lithuania, e-mail: roma.rackiene@ktu.lt

5.20. Training Possibilities in CPN
V. Baranauskas, S. Bartkevičius, K. Šarkauskas, Kaunas University of Technology, Lithuania, e-mail: kastytis.sarkauskas@ktu.lt

5.21. Learning Possibilities in CPN
V. Baranauskas, S. Bartkevičius, K. Šarkauskas, Kaunas University of Technology, Lithuania, e-mail: kastytis.sarkauskas@ktu.lt

5.22. Dielectric Admixtures to Capacitance of Plane Capacitor
J.A. Virbalis, S. Žebrauskas, Kaunas University of Technology, Lithuania, e-mail: arvydas.virbalis@ktu.lt

Discussions
VI Section. ELECTRONICS – T 170

Chairmen: Prof. P. Balaišis (KTU), e-mail: pranciskus.balaisis@ktu.lt
Prof. A. Valinevičius (KTU) e-mail: algimantas.valinevicius@ktu.lt
Secretary – Prof. S. Sajauskas (KTU), e-mail: stanislovas.sajauskas@ktu.lt

May 16, 2007, Wednesday,
KTU, Studentų str. 50, r. 441, LT-51368 Kaunas, Lithuania

Morning Session – 10.00 h

6.1. Verifiable Template Development for HDL-Descriptions
Y. Syrevitch, D. Zinchenko, Kharkov National University of Radio Electronics,
Ukraine, e-mails: syr_Jane@rambler.ru; darijaz@ukr.net

6.2. Testability Analysis of the VHDL Structure for Fault Coverage Improving
V. Hahanov, M. Kaminska, O. Lavrova, Kharkov National University of Radio Electronics,
Ukraine, e-mail: maryna4329@kture.kharkov.ua

6.3. Battery Management in Wireless Sensor Networks
D.E. Tiliute, “Stefan cel Mare” University of Suceava, Romania,
e-mail: dtiliute@seap.usv.ro

6.4. Influence of Thermal EOS Deformations on the Modulation Characteristics
L. Jakučionis, V. Sinkevičius, L. Šumskienė, KTU Panevėžys Institute, Lithuania,
e-mail: elekatedra@midi.ppf.ktu.lt

6.5. Identification of the Electrical Resistance of Growing Condensate
V. Sinkevičius, D. Viržonis, L. Šumskienė, T. Jukna, KTU Panevėžys Institute, Lithuania,
e-mail: lina.sumskiene@ktu.lt

6.6. Research of Electrodynamical Processes in Vacuum Evaporation System
V. Sinkevičius, D. Viržonis, L. Šumskienė, T. Jukna, KTU Panevėžys Institute, Lithuania,
e-mail: vytenis.sinkevicius@ktu.lt

6.7. Control System of the Experimental Researches of Deposition Process in Vacuum
V. Sinkevičius, D. Viržonis, L. Šumskienė, T. Jukna, KTU Panevėžys Institute, Lithuania,
e-mail: tomas.jukna@ktu.lt

6.8. Systems of Transport Route Development
K. Balsys, D. Eidukas, A. Marma, A. Valinevičius, M. Žilys, Kaunas University of Technology, Lithuania,
e-mail: kestutis.balsys@arevita.com

6.9. Electronic Parking Control System
A. Marma, M. Žilys, A. Valinevičius, Kaunas University of Technology, Lithuania,
e-mail: algimantas.valinevicius@ktu.lt

Discussions
Evening Session – Poster Reports

**Leads Prof. A. Valinevičius (KTU), e-mail: algimantas.valinevicius@ktu.lt**

6.10. Luminance Contrast of Colours in the Image of Digital Projection

*S. Masiokas, M. Kriuglaitė, Kaunas University of Technology, Lithuania,
e-mail: s.masiokas@ktu.lt*

6.11. Photometrical Characteristics’ Simulation of the Window with the Vertical Louver

*S. Masiokas, K. Šutas, Kaunas University of Technology, Lithuania,
e-mail: s.masiokas@ktu.lt*

6.12. Infusion Pump Integration to Management and Data Processing System

*V. Markevičius, D. Navikas, A. Noreika, P. Tarvydas, V. Jonynas, Kaunas University of Technology, Lithuania, e-mail: vytautas.markevicius@ktu.lt*

6.13. Research of Deflection System Magnetic Field Approximation

*V. Čepulis, D. Navikas, M. Čepulis, Kaunas University of Technology, Lithuania, e-mail: dnavikas@ktu.lt*


*A. Noreika, P. Tarvydas, Kaunas University of Technology, Lithuania,
e-mail: alius.noreika@stud.ktu.lt*

6.15. Infusion Pump Integration Device Concept

*V. Markevičius, D. Navikas, Kaunas University of Technology, Lithuania,
e-mail: dnavikas@ktu.lt*

6.16. The Evaluation of Stocks of Components for Electronic Devices

*V. Stupak, Mykolas Riomeris University, Lithuania, e-mail: v.stupak@kpf.mruni.lt*

6.17. The Efficiency of the Flexible Endotechnologies

*P. Balaišis, A. Žickis, Kaunas University of Technology, Lithuania,
e-mail: andrius.zickis@gmail.com*

6.18. Modelling of the Flexible Electronics Technologies

*P. Balaišis, D. Eidukas, A. Žickis, Kaunas University of Technology, Lithuania,
e-mail: pranciskas.balaisis@ktu.lt*

6.19. The Analysis of Research Directions of Biotronics Systems

*A. Valinevičius, E. Kerjas, P. Balaišis, Kaunas University of Technology, Lithuania,
e-mail: eugkera@stud.ktu.lt*

6.20. Intellectualisation of Biotronics Systems and Their Efficiency

*A. Valinevičius, E. Kerjas, P. Balaišis, Kaunas University of Technology, Lithuania,
e-mail: eugkera@stud.ktu.lt*

**Discussions**
VII Section. MICROELECTRONICS – T 171

Chairmen: Prof. A. Marcinkevičius, (VGTU),
e-mail: albinas.marcinkevicius@el.vtu.lt
Prof. J. Skudutis (VGTU), e-mail: julius.skudutis@el.vtu.lt
Secretary – Prof. R. Navickas (VGTU), e-mail: romualdas.navickas@el.vtu.lt

May 16, 2007, Wednesday,
VGTU, Naugarduko str. 41, r. 448,
LT-03227 Vilnius, Lithuania

Morning Session – 10.00 h

7.1. Opreative Method determination of Electrical Capacitance
R. Pūras, S. Sakalauskas, Z. Vaitonis, Vilnius University, Lithuania,
e-mail: romualdas.puras@ff.vu.lt

7.2. Nanoelectronics in Lithuania
R. Navickas, Vilnius Gediminas Technical University, Lithuania,
e-mail: romualdas.navickas@el.vtu.lt

7.3. Deterministic BIST and Delay Failures
Ž. Tamosiūnas, V. Jasus, R. Šeinauskas, Kaunas University of Technology,
Lithuania, e-mail: microchaos@transblokas.com

7.4. Simulation of stress distribution in the Silicon Substrate
R. Anilonis, T. Keršys, Kaunas University of Technology, Lithuania,
e-mail: tomas.kersys@stud.ktu.lt

7.5. Signal transformation Circuits in the Monolithic Analog Information Converters
A. Marcinkevičius, Vilnius Gediminas Technical University, Lithuania,
e-mail: albinas.marcinkevicius@el.vtu.lt

7.6. Thermal Oxidation in LOCOS, PBL and SWAMI Micro and Nano Structures
R. Anilonis, D. Andriukaitis, Kaunas University of Technology, Lithuania,
e-mail: darius.andriukaitis@stud.ktu.lt

7.7. Analysis of the Signal Transformation Circuits in the Analog-Digital Converters
V. Jusas, A. Marcinkevičius, Vilnius Gediminas Technical University, Lithuania,
e-mail: vaidas.jusas@el.vtu.lt

7.8. Modeling of SAW Delay Lines using PSPICE
J. Skardžius, Vilnius Gediminas Technical University, Lithuania,
e-mail: skarjulius@yahoo.com

7.9. Semiconductor Lamp for Greenhouse
Z. Bližnikas, K. Brevé, A. Žukauskas, P. Vitta, A. Novickovas, Material Research
and Applied Sciences Institute, Vilnius University, Lithuania,
e-mail: zenius.bliznikas@ff.vu.lt
P. Duchovskis, Lithuanian Institute of Horticulture, Lithuania

Discussions
Evening Session – Poster Reports

Leads Prof. J. Skudutis, VGTU, e-mail: julius.skudutis@el.vtu.lt

7.10. Simulation of 0.13 μm CMOS Charge Sensitive Preamplifier with Leakage Current Compensation
V. Barzdėnas, R. Navickas, Vilnius Gediminas Technical University, Lithuania,
e-mail: vaidotas.barzdenas@el.vtu.lt

7.11. Research of the Electroless Ni Oxide Thin Films Properties
A. Aulas, S. Balakauskas, Vilnius Gediminas Technical University, Lithuania,
e-mail: aulas@pfi.lt

7.12. Phase Noise in the Integrated Circuits
B. Laurinavičius, R. Navickas, M. Chustnudinov, Vilnius Gediminas Technical University, Lithuania, e-mail: zeroc@takas.lt

7.13. The Transition Fault Model of Complex Programmable Logic Devices
V. Abraitis, Ž. Tamoševičius, Kaunas University of Technology, Lithuania,
e-mail: abravida@elen.ktu.lt

7.14. Integrated ADC with Folding and Interpolating Circuits
D. Poviliauskas, V. Jasonis, A. Marcinkevičius, Vilnius Gediminas Technical University, Lithuania, e-mail: albinas.marcinkevicius@el.vtu.lt

7.15. Reverse Engineering of CMOS Integrated Circuits
G. Masalskis, R. Navickas, Vilnius Gediminas Technical University, Lithuania,
e-mail: giedrius@masalskis.net

7.16. Research of Glass (SiO$_2$-PbO-Al$_2$O$_3$+B$_2$O$_3$) Passivation Process and Formation of Porous Silicon Layer
D. Šalucha, Semiconductor Physics Institute and Joint Stock Company “Vilnius Venta Semiconductors”, Lithuania, e-mail: d.salucha@gmail.com

7.17. Investigation of Silicon Defects Parameters in Electron Irradiated Diodes
J. Višniakov, Semiconductor Physics Institute and Joint Stock Company “Vilnius Venta Semiconductors”, Lithuania, e-mail: j.visniakov@post.skynet.lt

7.18. Residual Stress Gradient Analysis by the GIXRD Method on Iron Thin Films
A. Meškauskas, Kaunas University of Technology, Lithuania,
e-mail: algimantas.meskauskas@ktu.lt

Discussions
VIII Section. TELECOMMUNICATIONS ENGINEERING – T 180

Chairmen: Prof. B. Dekeris (KTU), e-mail: brunonas.dekeris@ktu.lt
Prof. A. Kajackas (VGTU), e-mail: algimantas.kajackas@el.vtu.lt
Secretaries: Assoc. Prof. R. Rindzevičius (KTU), e-mail: Ramutis.Rindzevicius@ktu.lt
Assoc. Prof. G. Montvilas (VGTU), e-mail: gediminas.montvilas@el.vtu.lt

1 Morning Session – 10.00 h
May 16, 2007, Wednesday,
KTU, Studentų str. 50, 440 r., LT-51368 Kaunas, Lithuania

Chairman: Prof. B. Dekeris (KTU), e-mail: brunonas.dekeris@ktu.lt
Secretary: Assoc. Prof. R. Rindzevičius, (KTU), e-mail: Ramutis.Rindzevicius@ktu.lt

8.1. Software Defined Radar
I. Müürsepp, Tallinn University of Technology, Estonia, e-mail: ivom@lr.ttu.ee

8.2. Study on Internet Traffic Prediction Models
G. Lauks, G. Rutka, Riga Technical University, Latvia, e-mail: gundegarutka@tvnet.lv

8.3. Optimal Policy for LSP Control in MPLS Networks
G. Lauks, J. Jelinskis, Riga Technical University, Latvia, e-mail: lauks@rsf.rtu.lv

8.4. IP Traffic Engineering in Optical Networks using Generalized MPLS
H. Legha, Kaunas University of Technology, Lithuania, e-mail: legha@infoseka.lt

8.5. Influence of Nonlinear Optical Effects to the NRZ and RZ Modulation Methods in WDM Systems
V. Bobrovs, J. Porins, G. Ivanovs, Riga Technical University, Latvia,
e-mail: ahl@inbox.lv

8.6. Transmission Capacity of Local Copper Cables
R. Parts, Lattelecom, Latvia, e-mail: rolands.parts@lattelecom.lv

8.7. Dynamic Back Propagation based MRAC with Fuzzy Emulator for DC-DC Converter
S.G. Kadwane, A. Kumar, B.M. Karan, Birla Institute of Technology, Mesra, India,
e-mail: sgkadwane@bitmesra.ac.in

8.8. Enhancement of Photovoltaic Cells Utilization with Supercapacitors
I. Galkins, L. Bisenieks, A. Stepanovs, Riga Technical University, Latvia,
e-mail: bisenieks@eef.rtu.lv

8.9. Features of Utilization of Solar Panel Trackers in Latvia
I. Galkins, A. Sokolovs, A. Stepanovs, Riga Technical University, Latvia,
e-mail: stepan3000@inbox.lv

8.10. Development of Digital TV in Lithuania
B. Dekeris, L. Narbutaitė, G. Čińčkas, Kaunas University of Technology, Lithuania,
e-mail: brunonas.dekeris@ktu.lt

Discussions
### II Evening Session – Poster Reports

**Leads** Prof. L. Mažeika, KTU, Lithuania, e-mail: liudas.mazeika@ktu.lt

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<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
<th>Institution</th>
<th>E-mail Address</th>
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<tr>
<td>8.11</td>
<td>Lithuanian Mobile and Wireless Communications Technology Platform: Perspective of Research Activities</td>
<td>R. Plėstys, Kaunas University of Technology, Lithuania</td>
<td>e-mail: <a href="mailto:rimantas.plesty@ktu.lt">rimantas.plesty@ktu.lt</a></td>
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<td>8.12</td>
<td>Performance Analysis of Multi-Service Traffic Transmission over MPLS Network</td>
<td>R. Rindzevičius, G. Adlys, Kaunas University of Technology, Lithuania</td>
<td>e-mail: <a href="mailto:ramutis.rindzevicius@ktu.lt">ramutis.rindzevicius@ktu.lt</a></td>
<td></td>
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<tr>
<td>8.13</td>
<td>Aspects of Information Security in VoIP Technology</td>
<td>T. Adomkus, S. Kašėta, R. Gedmantas, Kaunas University of Technology, Lithuania</td>
<td>e-mail: <a href="mailto:stasys.kaseta@ktu.lt">stasys.kaseta@ktu.lt</a></td>
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<tr>
<td>8.14</td>
<td>Research Methodology for Traffic of VoIP Transmission Measures</td>
<td>P. Tervydis, Kaunas University of Technology, Lithuania</td>
<td>e-mail: <a href="mailto:paulius.tervydis@takas.lt">paulius.tervydis@takas.lt</a></td>
<td></td>
</tr>
<tr>
<td>8.15</td>
<td>IN Signaling Network Traffic Statistical Analysis</td>
<td>R. Gedmantas, A. Jarutis, Kaunas University of Technology, Lithuania</td>
<td>e-mail: <a href="mailto:remigijus.gedmantas@ktu.lt">remigijus.gedmantas@ktu.lt</a></td>
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<td>8.16</td>
<td>The Analysis of Network Resources for Real-time Services</td>
<td>I. Remeika, G. Činčikas, Kaunas University of Technology, Lithuania</td>
<td>e-mail: <a href="mailto:gido@ktu.lt">gido@ktu.lt</a></td>
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<td>8.17</td>
<td>Neural Net and Statistic based Anti-spam Filters</td>
<td>D. Puniškis, R. Laurutis, Kaunas University of Technology, Lithuania</td>
<td>e-mail: <a href="mailto:danius@meganet.lt">danius@meganet.lt</a></td>
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<td>8.18</td>
<td>A Virtual Educational Laboratory for Telecommunication Technologies</td>
<td>A. Budnikas, Kaunas University of Technology, Lithuania</td>
<td>e-mail: <a href="mailto:aurelijus.budnikas@ktu.lt">aurelijus.budnikas@ktu.lt</a></td>
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<td>8.19</td>
<td>Hybrid Location Update Models of Users of Electronic Services</td>
<td>I. Lagzdinytė, Kaunas University of Technology, Lithuania</td>
<td>e-mail: <a href="mailto:ingrida.lagsdinyte@ktu.lt">ingrida.lagsdinyte@ktu.lt</a></td>
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<td>8.20</td>
<td>Estimation of Frequency Characteristics of Supernarrow-band High-Selective Digital Filters</td>
<td>T. Mamirov, Transport and Telecommunication Institute of Riga, Latvia</td>
<td>e-mail: <a href="mailto:mamirov_t@yahoo.com">mamirov_t@yahoo.com</a></td>
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<td>8.21</td>
<td>Video Service Quality Evaluation in UMTS Networks</td>
<td>R. Jankūniene, A. Žvaginis, Kaunas University of Technology, Lithuania</td>
<td>e-mail: <a href="mailto:ruta.jankuniene@ktu.lt">ruta.jankuniene@ktu.lt</a></td>
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**Discussions**
III Morning Session – 10.00 h

May 17, 2007, Thursday,
VGTU, Naugarduko g. 41, r. 214,
LT - 03227 Vilnius, Lithuania

Chairman – Prof. A. Kajackas, e-mail: algimantas.kajackas@el.vtu.lt
Secretary – G. Montvilas, e-mail: gediminas.montvilas@el.vtu.lt

S. Sidaras, D. Rudinskaskas, State Institute of Information Technology. S. Stvol, Vilnius Gediminas Technical University, Lithuania, e-mail: saulsid@viti.lt

8.23. Problems of Optical Network Modernization and Design
O. Jodko, Vilnius Gediminas Technical University, Lithuania, e-mail: olegas.jodko@teo.lt

8.24. Interactive Digital Television Usage for Distance Learning Purposes
S. Sidaras, A. Juozėnas, A. Jazgevičiūtė, State Institute of Information Technology. V. Smirnov Vilnius Gediminas Technical University, Lithuania, e-mail: saulsid@viti.lt

8.25. On Complicated Discipline Teaching, using Interactive Television iDTV, Question (on the Ground of the Topic: "Mathematical Assurances Models: Evaluation of Large Risk Probabilities")
S. Sidaras, State Institute of Information Technology. L. Saulis, Vilnius Gediminas Technical University, Lithuania, e-mail: saulsid@viti.lt

8.26. Bridge to Bridge Environment as Perspective PKI&WPKI Interoperability Solution
S. Sidaras, D. Puidokas, State Institute of Information Technology. S. Sereda, Vilnius Gediminas Technical University, Lithuania, e-mail: saulsid@viti.lt

8.27. Vulnerabilities in RFID – Enabled Devices with Strong Authentication
S. Sidaras, D. Rudinskaskas, State Institute of Information Technology, Lithuania, e-mail: saulsid@viti.lt

8.28. Modelling of Conversational Speech in Wireless Customer Networks
A. Vindašius, Vilnius Gediminas Technical University, Lithuania, e-mail: a. vindasius@lrtc.lt

8.29. Modelling Frame Error Traces in GSM Full Rate Channel
D. Guršnys, Vilnius Gediminas Technical University, Lithuania, e-mail: darius.gursnys@el.vtu.lt

8.30. Wireless Networks Security for Enterprises
R. Rainys, Communications Regulatory Authority of the Republic of Lithuania, e-mail: rrainys@rrt.lt

8.31. Technological Expanditures of Common WLAN Models
A. Kajackas, L. Pavilanskas, Vilnius Gediminas Technical University, Lithuania, e-mail: lukas.pavlanskas@el.vtu.lt

Discussions
IV Evening Session – Poster Reports

Leads Prof. A. Kajackas (VGTU), Lithuania; e-mail: algimantas.kajackas@el.vtu.lt

8.32. Application of Linear Prediction Coefficients Interpolation in Speech Signal Restoration
Š. Paulikas, R. Karpavičius, Vilnius Gediminas Technical University, Lithuania, e-mail: sarunas.paulikas@el.vtu.lt

8.33. Impact of Lost Frames on ASR Performance
A. Anskaitis, Vilnius Gediminas Technical University, Lithuania, e-mail: aurimas.anskaitis@el.vtu.lt

8.34. Influence of Packet Loss on CELP Codecs Performance
Š. Paulikas, M. Itani, Vilnius Gediminas Technical University, Lithuania, e-mail: sarunas.paulikas@el.vtu.lt

8.35. Evaluation of Quality of Mobile Data Services
V. Batkauskas, A. Makarovas, Vilnius Gediminas Technical University, Lithuania, e-mail: vaidasbatkauskas@delfi.lt

L. Pavilanskas, Vilnius Gediminas Technical University, Lithuania, e-mail: lukas.pavilanskas@el.vtu.lt

8.37. Spatial and Time Peculiarities of Electromagnetic Wave Propagation in the Near Vicinity of Radiotechnical Objects
G. Montvilas, R.V. Pocius, Vilnius Gediminas Technical University, Lithuania, e-mail: gediminas.montvilas@el.vtu.lt

8.38. Positioning System Platform for LBS Services
V. Liutkauskas, D. Diglys, M. Zaleckis, Kaunas University of Technology, Lithuania, e-mail: vidmantas.liutkauskas@ktu.lt

8.39. Quality Optimization Problems for Triple’Play Services
I. Remeika, Kaunas University of Technology, Lithuania, e-mail: irmantas.remeika@dirbtinisinteletkas.lt

8.40. Return to Service Time Evaluation Model
D. Šinickas, Kaunas University of Technology, Lithuania, e-mail: donatas.sinickas@ktu.lt

8.41. Performance Analysis of an Unreliable Network Node
A. Žvironienė, Z. Navickas, R. Rindzevičius, Kaunas University of Technology, Lithuania, e-mail: ausra.zvironiene@ktu.lt

Discussions
The 11th International Conference ELECTRONICS
Programa

IX Section. ELECTRICAL ENGINEERING – T 190

Chairmen: Prof. S. Gečys (KTU), e-mail: steponas.gecys@ktu.lt
Prof. A. Smilgevičius (VGTU), e-mail: algirdas.smilgevicius@el.vtu.lt
Secretary – Prof. J. A. Virvalis (KTU), e-mail: arvydas.virbalis@ktu.lt

May 17, 2007, Thursday,
KTU. Studentų str. 48, r. 231, LT-51367 Kaunas, Lithuania

Morning session – 10.00 h

9.1. Laboratory Setup of AC Frequency Drives
L. Ribickis, O. Krievs, M. Berzins, Riga Technical University, Latvia,
e-mail: M_Berzins@inbox.lv

9.2. Mathematical Model of the Linear Motor
E. Matkevičius, I. Radzevičius, Vilnius Gediminas Technical University, Lithuania,
e-mail: edvardas.matkevicius@el.vtu.lt

9.3. Distribution of Magnetic Field of Linear Induction Motor
T. Sadauskas, A. Smilgevičius, Z. Savickienė, Vilnius Gediminas Technical University,
Lithuania, e-mails: asm@el.vtu.lt; ssadass@gmail.com; zita.savickiene@el.vtu.lt

9.4. Research of Borehole Electric Motor with Solid Copper Cage Winding Rotor
P. Smolskas, S. Gečys, Kaunas University of Technology, Lithuania,
e-mail: prunas.smolskas@delfi.lt

9.5. Design Aspects of Electric Motors for Borehole Investigating Mechatronic System
S. Gečys, P. Smolskas, Kaunas University of Technology, Lithuania,
e-mail: steponas.gecys@ktu.lt

9.6. Experimental Investigation of Centre Displacement of Oscillating Pulsating Current
Motor and Springless Compressor Drive
A. Senulis, E. Guseinovienė, V. Jankūnas, L. Urmonienė, Klaipėda University,
Lithuania, e-mail: eleonora.guseinoviene@ku.lt

J. Bukšnaitis, Lithuanian University of Agriculture, Lithuania,
e-mail: juozas.buksnaitis@lzuu.lt

9.8. Investigation of Squirrel-Cage Induction Motor’s Properties
P. Kostrauskas, A. Degutis Kaunas University of Technology, Lithuania,
e-mail: algirdas.degutis@ktu.lt

9.9. Development of the Phasor Diagram and Equivalent Circuit for the Salient Pole
Synchronous Machine
S. Kudarauskas, L. Simanynienė, Klaipėda University, Lithuania,
e-mail: kudarauskas@klaipeda.omnitel.net

9.10. Control Environment of Linear Induction Drive Dynamic Models
R. Rinkevičienė, S. Lisauskas, Vilnius Gediminas Technical University, Lithuania,
e-mail: sauliis.lisauskas@el.vtu.lt

Discussions
The 11th International Conference ELECTRONICS

Evening session – Poster Reports

Leads Prof. J.A. Virbalis, KTU, Lithuania, e-mail: arvydas.virbalis@ktu.lt

9.11. Modelling of AC Induction Drive in PSpice
   R. Rinkėvičienė, A. Petrovas, Vilnius Gediminas Technical University, Lithuania,
   e-mail: andrius@andr-petr.w3.lt

9.12. Research Characteristics of the Linear Induction Motor
   L. Radzevičius, E. Matkevičius, Vilnius Gediminas Technical University, Lithuania,
   e-mail: lioginas.radzevicius@el.vtu.lt

9.13. Optimal Phase Number of Induction Motors with Integrated Inverter
   J. Vanagas, S. Bugenis, VEC, Lithuania, e-mails: jonas@vec.lt; saulius.bugenis@vkt.lt

   A. Kalvaitis, Kaunas University of Technology, Lithuania,
   e-mail: arturas.kalvaitis@ktu.lt

9.15. Computer Modelling of the Starting Processes of Induction Motor
   J. Karaliūnienė, L. Krištaponis, D. Lukošienė, Vilnius Gediminas Technical College, Lithuania,
   e-mail: dalia.lukošiene@vkt.lt

9.16. Investigation of Linear Induction Motor Braking Modes by Spectral Method
   B. Karaliunas, E. Matkevičius, Vilnius Gediminas Technical University, Lithuania,
   e-mail: Bronius.Karaliunas@el.vtu.lt

9.17. Equations of DC Corona Electrical Wind Velocities
   P. Marčiulionis, S. Žebrauskas, Kaunas University of Technology, Lithuania,
   e-mail: stasys.zebrauskas@ktu.lt

9.18. Difference Approximation of DC Corona Equations
   S. Pačinskis, S. Žebrauskas, Kaunas University of Technology, Lithuania,
   e-mail: stasys.zebrauskas@ktu.lt

9.19. Influence of Lightning Magnetic Fields on Overhead Lines
   A. Rožanskas, Kaunas University of Technology, Lithuania,
   e-mail: antanas.rozanskas@lpc.lt

Discussions
X Section. HIGH FREQUENCY TECHNOLOGIES, MICROWAVES – T 191

Chairmen: Prof. R. Martavičius (VGTU), e-mail: romanas.martavicius@el.vtu.lt
Prof. S. Štaras (VGTU), e-mail: stanislovas.staras@el.vtu.lt
Secretary – Assoc. Prof. V. Urbanavičius (VGTU)
e-mail: vytautas.urbanavicius@el.vtu.lt

May 17, 2007, Thursday,
VGTU, Naujarduko str. 41, r. 425, LT-03227 Vilnius, Lithuania

Morning Session – 10.00 h

10.1 Refraction Seasonal Variation and that Influence on to GHz Range Microwaves Availability
D. Serdega, G. Ivanovs, Riga Technical University, Latvia,
e-mail: d.serdega@eesnet.ru

10.2. Simulation of the Inhomogeneous Meander Line
V. Daškevičius, SC „Lietuvos dujos”, J. Skudutis, S. Štaras, Vilnius Gediminas Technical University, Lithuania, e-mail: v.daskevicius@lietuvosdujos.lt

10.3. Model of the Multiconductor Microstrip Line
V. Urbanavičius, Š. Mikučionis, R. Martavičius, Vilnius Gediminas Technical University, Lithuania, e-mail: vytautas.urbanavicius@el.vtu.lt

10.4. Investigation of the Complex Cross-Section Multiconductor Line
T. Burokas, JSC „TYCO ELECTRONICS AMP atstovė Lietuvoje”, S. Štaras, Vilnius Gediminas Technical University, Lithuania,
e-mail: burokas@tycoelectronics.com

10.5. High Power Millimeter Wave Pulse Sensors for W-band
Ž. Kancleris, M. Dagys, R. Simniškis, V. Tamošiūnas, Semiconductor Physics Institute, Lithuania, e-mail: kancleris@uj.pfi.lt

10.6. The Fast DAC Settling Time Measurement with the Digital Processing of Researched Signals
R. Kvedaras, JSC „Siemens”, T. Ustinavičius, V. Kvedaras, Vilnius Gediminas Technical University, Lithuania, e-mail: rokas.kvedaras@siemens.com

10.7. UWB Measurement System of Absorber Reflectivity
B. Levitas, J. Matučas, S. Jefremov, JSC „GEOZONDAS”, Lithuania,
e-mail: info@geozondas.com

Discussions
Evening Session – Poster Reports

Leads Prof. S. Štaras (VGTU), Lithuania, e-mail: stanislovas.staras@el.vtu.lt

10.8. Oscilloscope Trigerring with 300 fs RMS Jitter
   A. Galkin, E. Piatov, J. Rososkis, O. Zaitsev, JSC „ELTESTA“, Lithuania,
e-mails: eltesta@takas.net; info@eltesta.com

10.9. Panoramic SWR and Attenuation Meter for a Frequency Band 175-225 GHz
   T. Ambinderis, A. Narkūnas, S. Kuch, J. Ikonikova, I. Papsujeva, JSC „ELMIKA“,
   Lithuania, e-mail: Elmiika@post.omnitel.net

10.10. Calculation of Electromagnetic Magnetoplasmic Waves in Multilayer
       Semiconductors Resonators with Very Strong Magnetic Field
       R. Gaivenis, Vilnius College in Higher Education, Lithuania, e-mail: rimas@viko.lt

10.11. High Pulsed Magnetic Fields Generation and Application for Investigation of
       Semiconductors and Manganites
       J. Novickij, Vilnius Gediminas Technical University, Lithuania,
e-mail: jurij.novickij@el.vtu.lt

       Magnetic Field
       Z. Jankauskas, V. Kvedaras, Vilnius Gediminas Technical University, Lithuania,
e-mail: zigmantas.jankauskas@el.vtu.lt

10.13. Edge Reconstruction in Magnified Image
       V. Vyšniauskas, Šiauliai University, Lithuania,
e-mail: vytautas.vyshnauksas@tf.su.lt

       V. Daškevičius, J. Skudutis, S. Štaras, Vilnius Gediminas Technical University,
       Lithuania, e-mail: julius.skudutis@el.vtu.lt

Discussions
Glimpses from the conference
Glimpses from the 7th international conference „Electronics’2003“
Glimpses from the 8th international conference „Electronics’2004“
Glimpses from the 9th international conference „Electronics’2005“: celebration of the 80th Anniversary of Academician Antanas Kudzys
Moments from the 10th anniversary international conference „Electronics’2006“
Moments from the 10th anniversary international conference „Electronics’2006“
The 1st-5th Conferences Honorable Chairman – Academician Algirdas Žukauskas, permanent conference Chairman – Academician Danielius Eidukas, Scientific Secretary professor Stasys Rupkus

Constant organizers of the conferences: referent Romualda Polzunova and administrator Aldona Rupkuviene
Faculty of Telecommunications and Electronics

Structure

Depts
- Electronics Engineering
- Electronics and Measurements Systems
- Signal Processing: Telecommunications

Students
- Bachelors - 1060
- Postgraduates - 199
- Graduates - 39

Departments

Staff
- Professors: 14
- Assoc. Professors: 32
- Doctors, Lecturers and Assistants: 15
- Other Personnel: 15

Internet Site

Kaunas University of Technology [http://www.ktu.lt]
Admitance, e-mail: komisija@er.ktu.lt; phone: +370 37 300044
Faculty Dept. Information: dektel@adm.ktu.lt

The Faculty of Radioelectronics was founded in 1964. In 1993 the Institute of Ultrasound was joined with the Faculty. At that time, the Department of Communications was reorganized into the Department of Telecommunications. In 1996, the Prof. K. Barsauskas Ultrasound Research Centre was founded using the existing Institute of Ultrasound laboratories. In 1996, the Faculty was reorganized into the Faculty of Telecommunications and Electronics.

The faculty provides undergraduate programmes and courses of studies leading to the degrees of: Bachelor of Science in Electronics Engineering; Bachelor of Science in Electronics Engineering and Management; Bachelor of Science in Telecommunications;
- Master of Science degree study programmes in: Electronics Engineering; Metrology and Measurement; Telecommunications
- Master’s degree in the following study programmes: Applied Metrology; Electronics Technology; Telecommunication Systems.

Post-graduate studies lead to a Doctor’s degrees in: Electrical and Electronics Engineering; Measurement Engineering.

11-osios tarptautinės konferencijos „ELEKTRONIKA‘2007“ programa
Mokslinis redaktorius prof. D. Eidukas
Rinko ir maketavo R. Polzunova
Informacija internete [http://www.ktu.lt/lt/index2_3.html]
Išleido leidykla „Technologija“, K. Donelaicių g. 73, LT–44029, Kaunas
Spausdino leidyklos „Technologija“ spaustuvė, Studentų g. 54, LT–51424, Kaunas

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